



Technical Planning

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What We Have Done To Revitalize Systems Engineering

- Issued Department-wide systems engineering (SE) policy
- Issued guidance on SE and test and evaluation (T&E)
- Established SE Forum—senior-level focus within DoD
- Instituted system-level assessments in support of OSD major acquisition program oversight role
- Working with Defense Acquisition University to revise SE, T&E, and enabling career fields curricula (Acq, PM, CM, FM)
- Integrating Developmental T&E with SE policy and assessment functions—focused on effective, early engagement of both
- Instituting a renewed emphasis on modeling and simulation
- Leveraging close working relationships with industry and academia

Necessary but not sufficient!



Striving for Technical Excellence

- All programs shall develop a SE Plan (SEP)
 - Each PEO shall have a lead or chief systems engineer who monitors SE implementation within program portfolio
 - Event-driven technical reviews with entry criteria and independent subject matter expert participation
 - OSD shall review program's SEP for major acquisition programs (ACAT ID and IAM)
- Technical planning
 - Technical leadership
 - Technical execution
- Technical excellence

Strong technical foundation is the value of SE to the program manager



Driving Technical Rigor Back into Programs “Portfolio Challenge”

- For major acquisition programs (ACAT ID and IAM), Defense Systems was tasked to:
 - Review program’s SE Plan (SEP)
 - Review program’s T&E Master Plan (TEMP)
 - Conduct Program Support Reviews (PSRs)
- Across these domains:
 - Business Systems
 - Communication Systems
 - C2ISR Systems
 - Fixed Wing Aircraft
 - Unmanned Systems
 - Rotary Wing Aircraft
 - Land Systems
 - Ships
 - Munitions
 - Missiles

***Systems Engineering support to over 130
major programs in ten domains***



Driving Technical Rigor Back into Programs “Importance and Criticality of the SEP”

- Program’s SEP provides insight into every aspect of a program’s technical plan, focusing on:
 - What are the program requirements?
 - Who has responsibility and authority for managing technical issues—what is the technical staffing and organization?
 - How will the technical baseline be managed and controlled?
 - What is the technical review process?
 - How is the technical effort linked to overall management of the program?
- Living document with use, application, and updates clearly evident

The SEP is fundamental to technical and programmatic execution on a program

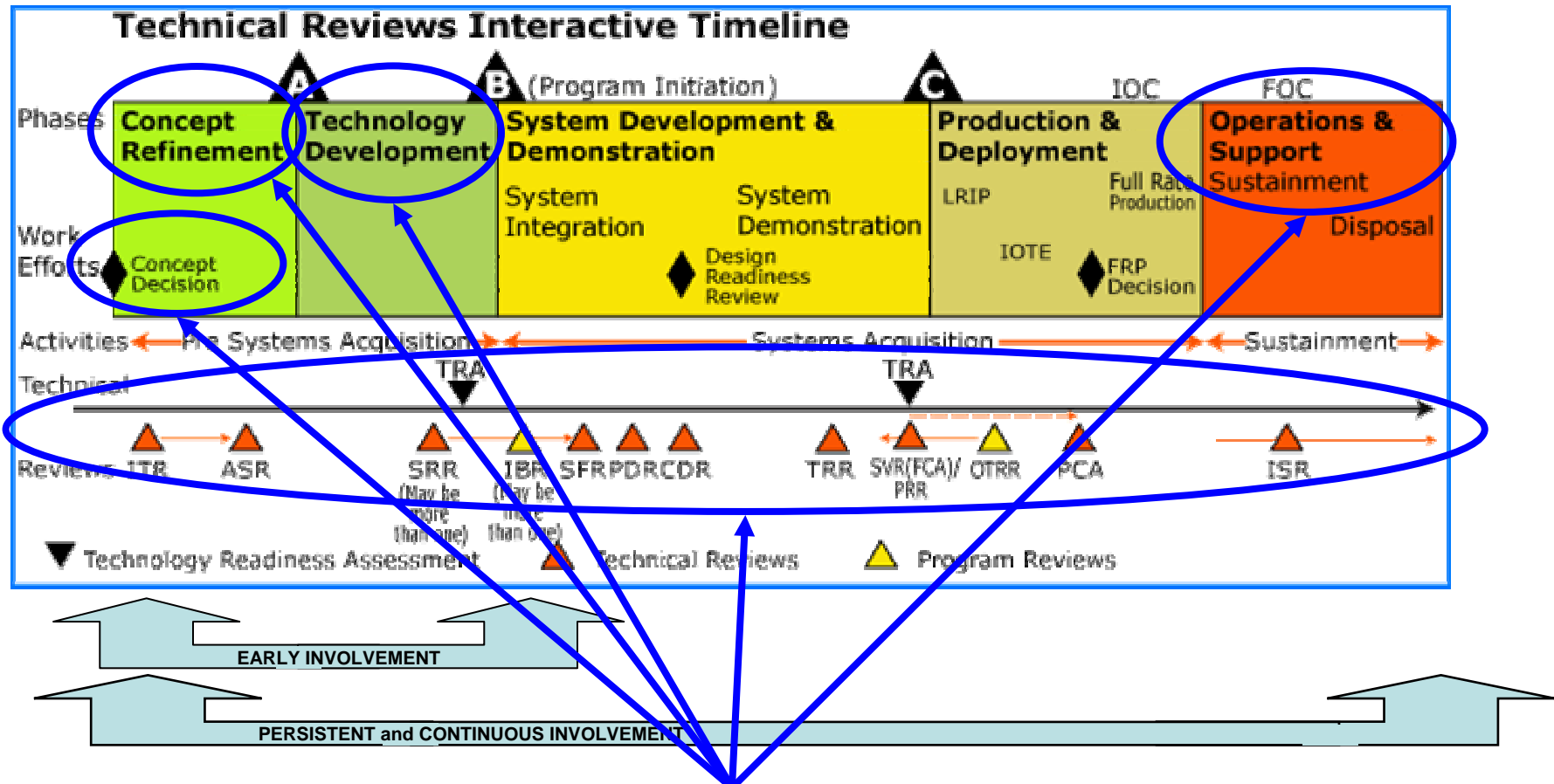


Driving Technical Discipline

Topic	Systems Engineering	Test & Evaluation	Programmatic Risk Management	Exit Criteria	Acquisition Strategy
Focus Areas	Requirements	V&V Traceability	Risk ID	Mission Systems	Mission Capability
	Organization & Staffing	Test Resources	Risk Analysis	Support	Resources & Management
	Technical Reviews	Test Articles	Risk Mitigation Planning	Manufacturing	Technical Process
	Technical Baseline	Evaluation	Risk Tracking	R & M	Technical Product
	Linkage w/ Other Program Mgmt & Controls	Linkage w/ Other Program Mgmt & Controls	Evidence of Effectiveness	Net Centric	Enterprise Environment
Product	SEP	TEMP	RM Plan	Phase Exit Criteria	ASR/APB



SE Role in Acquisition



Increased use of disciplined Systems Engineering, including formal technical reviews, to effectively address technical issues



Driving Technical Rigor Back Into Programs “Program Support Reviews”

- Program Support Reviews provide insight into a program’s technical execution focusing on:
 - SE as envisioned in program’s technical planning
 - T&E as captured in verification and validation strategy
 - Risk management—integrated, effective and resourced
 - Milestone exit criteria as captured in Acquisition Decision Memo
 - Acquisition strategy as captured in Acquisition Strategy Report
- Independent, cross-functional view aimed at providing risk-reduction recommendations

The PSR reduces risk in the technical and programmatic execution on a program



Summary

- OSD's fundamental role is to set policy, provide relevant and effective education and training, and foster communication throughout the community—much has been accomplished
- OSD cannot do everything...NOR should we
- Challenges Remain
 - Getting programs properly structured—SEP/TEMP/Risk Management Plan/Exit Criteria/ASR across all programs
 - Refocusing Acquirer and Supplier on technical management of programs
 - Ensuring adequate Government technical resources

Services and Agencies, along with Industry, must take ownership of the institutionalization of SE